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1983
NORTHEASTERN AREA
FOREST PEST CONDITIONS

Summary of the Status of the
Major Forest Insect and Disease Pests

for

Connecticut	Missouri
Delaware	New Hampshire
Illinois	New Jersey
Indiana	New York
Iowa	Ohio
Maine	Pennsylvania
Maryland	Rhode Island
Massachusetts	Vermont
Michigan	West Virginia
Minnesota	Wisconsin

The information for this report was provided by State Pest Management specialists and the USDA Forest Service (Northeastern Area, State and Private Forestry, Forest Pest Management, at the Durham, New Hampshire, St. Paul, Minnesota, and Morgantown, West Virginia Field Offices).

Compiled by Morgantown Field Office.

In 1983, the most significant insect problems were caused by defoliators. The gypsy moth and spruce budworm combined accounted for about 9 million acres of defoliation. In addition, a number of other defoliators caused losses in localized areas.

Beech bark disease, oak wilt, and Dutch elm disease caused the most disease problems over the largest area. There has been an apparent increase in disease declines due to as yet not fully known causes. Eastern larch decline and red spruce decline are widespread in the northeast. Insects and root diseases are associated with the decline and the role of air pollution and acid precipitation is being investigated. Sugar maple decline appears to be related to previous defoliation; red maple and birch decline are reported in Maine and Vermont.

These and other pest problems are listed in alphabetical order in the report. Thanks to all the people who contributed.

Status of Insects

Insect	Host	Location	Remarks
Basswood thrips <u>Sericothrips tiliae</u>	Basswood	Wisconsin	About 100,000 acres of mainly moderate defoliation resulted in some mortality of pole-sized trees and radial growth loss of the remaining affected trees. ✓
		Minnesota	Light infestation in two counties.
Birch casebearer <u>Coleophora serratella</u>	Birch	Maine	Approximately 193,000 acres were defoliated this year. ✓
Birch leaf skeletonizer <u>Bucculatrix canadensiella</u>	Paper birch	Minnesota	About 50,000 acres were affected. This was the third consecutive year of defoliation. ✓
		Michigan	There were 1,272 acres of light defoliation, down from 38,250 acres in 1982. ✓
		Vermont	
Bruce spanworm <u>Operophtera bruceata</u>	Sugar maple, poplar, American beech	New Hampshire	Light to moderate defoliation occurred on 18,600 acres. One 50 acre sugarbush stand was aerially treated with insecticide. About 697 acres of defoliation occurred on the White Mountain NF. ✓
		Vermont	Light to moderate defoliation occurred on more than 20,000 acres. Populations are expected to increase. ✓
		Maine	About 338,000 acres of defoliation occurred this year.
Cherry lace bug <u>Corythucha pruni</u>	Black cherry	Pennsylvania	More than 1,000 acres of moderate to heavy defoliation with populations expected to decline. ✓

Insect	Host	Location	Remarks
Cherry scallop shell moth <u>Hydria prunivorata</u>	Black Cherry	Pennsylvania Michigan West Virginia New York	Close to 80,000 acres had moderate to heavy defoliation resulting in losses of \$20/acre. Populations are continuing to increase. Success of aerial application of insecticides over 432 acres has not yet been determined. ✓ Heavy defoliation occurred on 7,820 acres. Populations are increasing in the mountainous areas of the State. Moderate to heavy defoliation occurred on 3,475 acres.
Eastern tent caterpillar <u>Malacosoma americanum</u>	Black cherry and crabapple	Indiana Missouri West Virginia Michigan Vermont Rhode Island	Lower populations occurred in all States. ✓
European pine sawfly <u>Neodiprion sertifer</u>	Scotch pine, loblolly pine	Indiana Maryland Michigan Iowa	Moderate to heavy defoliation of Christmas trees in Southeastern Indiana. ✓ Light to moderate defoliation on more than 7,500 acres of loblolly pine in Maryland.
Fall cankerworm <u>Alsophila pometaria</u>	Hardwoods	Rhode Island Massachusetts Maine	Populations declined after five consecutive years of heavy populations. ✓ Defoliation occurred on 6,190 acres.

Insect	Host	Location	Remarks
Fall defoliator complex	Paper birch, basswood, oaks	Minnesota	710,000 acres of light to heavy defoliation occurred resulting primarily in slight growth losses. Reduced fall coloration and caterpillar nuisance caused heavy losses to the tourist industry.
Variable oak leaf caterpillar			
<u>Heterocampa manteo</u>			
Red humped oakworm			
<u>Symmerista canicosta</u>			
Pale tussock moth			
<u>Halisidota tessellaris</u>			
Walkingstick			
<u>Diapheromera femerata</u>			
Fall webworm	Hardwoods	Pennsylvania	Roadside and yard trees with two or more webs per tree occurred Statewide.
<u>Hyphantria cunea</u>		Indiana	Populations are expected to decline.
		Iowa	Continued low populations.
		Maine	
		Rhode Island	
		Missouri	Low populations, damage Statewide was scattered.
		West Virginia	Very heavy infestations in the Northern panhandle.

Insect	Host	Location	Remarks
Forest tent caterpillar <u>Malacosoma</u> <u>disstria</u>	Hardwoods	Minnesota	There were about 168,000 acres of heavy defoliation and 70,000 acres of lighter defoliation. Some stands have now been defoliated for 6 consecutive years and are showing up to 50 percent mortality.
		Michigan	Populations collapsed this year.
		Vermont	About 180 acres were defoliated, down from 321,693 acres in 1982.
		Maine	About 348,000 acres were defoliated.
		Massachusetts	About 135 acres were defoliated, populations are building.
		Maryland	Together with half-wing geometer and fall cankerworm, defoliation in 1982 and 1983 has caused an undetermined amount of mortality in Allegany County.
		New York	Light to heavy defoliation occurred on 25,520 acres and 3,500 acres had tree mortality.
Gypsy moth <u>Lymantria dispar</u>	Oaks, other hardwoods	Wisconsin	Defoliation on nearly 300,000 acres resulted in 16,000 cords of aspen mortality.
		Connecticut	The total acreage for the areas of moderate to heavy defoliation decreased again this year. Area wide 2.3 million acres were defoliated in 1983 compared to 8.2 million acres in 1982. Male moths have been trapped areawide. Eradication of three spot infestations was attempted in Indiana. Several spot infestations have occurred in Wisconsin, two of which have apparently been eradicated.
		Delaware	
		Indiana	
		Maine	
		Maryland	
		Massachusetts	
		Michigan	
		New Hampshire	
		New Jersey	
		New York	
		Pennsylvania	
		Rhode Island	
		Wisconsin	
		Minnesota	
		West Virginia	About 450 acres were treated to eradicate spot infestations. Nearly 17,000 acres were treated. Additional treatment is planned.

MN
ND
NY
WI } cont.

Insect	Host	Location	Remarks
Half-wing geometer <u>Phigalia titea</u>	Oak	Pennsylvania	There were about 27,000 acres of moderate to heavy defoliation mixed with gypsy moth. Populations have peaked and are expected to decline.
		West Virginia	About 35,000 acres were defoliated as part of a "looper complex" which includes the linden looper, fall cankerworm, oak leaf rollers, oak leaf tiers, forest tent caterpillar. Average mortality is 20 percent in areas of 2 successive years of defoliation.
Introduced pine sawfly <u>Diprion similis</u>	White pine	Indiana	Moderate to heavy defoliation of 25 trees in one windbreak.
		Michigan	Light to moderate defoliation in several locations.
		Minnesota	
Jack pine budworm <u>Choristoneura pinus</u>	Jack pine	Wisconsin	An undetermined amount of growth loss resulted from 155,500 acres of defoliation in 4 counties. Populations are expected to increase.
		Minnesota	Light to moderate defoliation occurred on about 2,900 acres.
		Michigan	Close to 600,000 acres were defoliated Statewide. An estimated 1.25 million cords will die if not harvested within 2 years.
Japanese beetle <u>Popillia japonica</u>	Many plants	Indiana	There was light to heavy defoliation Statewide. Populations continue to increase around major cities.
Leafrollers <u>Acleris chalybeana</u> , <u>Pseudexentera cressoniana</u> , <u>Sparganothis acerivorana</u>	Red maple and sugar maple	Pennsylvania	More than 5,000 acres of moderate defoliation. Future population trends are undetermined.

Insect	Host	Location	Remarks
Linden looper <u>Erannis tiliaria</u>	Oaks, maples, hickories	Pennsylvania Indiana ✓	There were more than 10,000 acres of light to moderate defoliation and declining populations. Previous years defoliation (together with half-wing geometer) resulted in mortality of 2,700+ trees representing 100,000-250,000 board feet. Approximately 22,000 board feet were salvaged. Populations are expected to remain at low endemic levels through 1984.
Locust leafminer <u>Odontota dorsalis</u>	Black locust	Indiana Maryland West Virginia Vermont	Moderate to heavy defoliation in the Southern half of Indiana. ✓ Statewide. Becoming more widespread.
Nantucket pine tip moth <u>Rhyacionia frustrana</u>	Scotch pine, shortleaf pine	Missouri	Christmas tree plantations across the State were damaged. Approximately 160 acres were treated with insecticides. ✓
Oak leaf roller <u>Archips semiferranus</u>	Oak	Pennsylvania	About 23,000 acres of moderate to heavy defoliation occurred, 5,000 acres of which was mixed with gypsy moth. Acres infested are expected to continue increasing. ✓
Oak skeletonizer <u>Bucculatrix ainsliella</u>	Oak	Michigan Rhode Island	Statewide in most oak stands. There were 132,840 acres of heavy defoliation. ✓ Scattered Statewide.
Oak webworm <u>Archips fervidanus</u>	Oak	Michigan	About 20 percent defoliation of oaks occurred on 14,400 acres in 3 counties. ✓
Pine scale <u>Chionaspis heterophyllae</u>	Pines	Indiana	Heavy damage occurred in Fulton County. ✓
Red humped oakworm <u>Symmerista canicosta</u>	Oak	Michigan	About 2,000 acres of heavy defoliation occurred in 2 counties. Populations are expected to increase. ✓

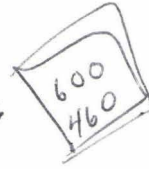
Insect	Host	Location	Remarks
Red pine adelgid <u>Pineus boernerii</u>	Red pine	Connecticut Rhode Island Massachusetts	Some branch and tree mortality is occurring. Damage is similar to that of red pine scale. ✓
Red pine scale <u>Matsucoccus resinosae</u>	Red pine	Connecticut New York New Jersey Pennsylvania	Heavy branch mortality and in some plantations 100 percent mortality. The infestation is spreading northwest and westward. ✓
Red pine shoot borer <u>Dioryctria resinosella</u>	Red pine	Wisconsin Michigan	This outbreak in central Wisconsin over the past 10 years has resulted in a 50 percent reduction in height growth. 85,000 acres are infested statewide. ✓
Redheaded pine sawfly <u>Neodiprion lecontei</u>	Red pine, jack pine, Scotch pine	Michigan Rhode Island Vermont	Mortality occurred in a 100 mi ² area in Wexford County. This was the sixth consecutive year of low populations. ✓
Saratoga spittlebug <u>Aphrophora saratogensis</u>	Red pine	Wisconsin Michigan	Over 800 acres were affected of which 90 were treated with insecticide. Tree mortality and top kill occurred on 120 acres and 899 additional acres were rated as high risk areas. ✓
Shingle oak skeletonizer Unidentified member of the Gelechiidae family	Shingle oak	Missouri	Minor defoliation occurred in 22 counties. The last outbreaks of this insect occurred in 1952. ✓
Spruce bud moth <u>Zeiraphera canadensis</u>	White spruce	Vermont Maine	Abundant in Christmas tree plantations, but damage is light and often confused with budworm. ✓

Insect	Host	Location	Remarks
Spruce budworm <u>Choristoneura</u> <u>fumiferana</u>	Balsam fir, white spruce	Wisconsin	Light to severe defoliation occurred over 20,000 acres.
		Minnesota	About 138,700 acres were defoliated. Mortality incurred from previous years defoliation totaled 493,800 cords of fir and 8,000 cords of spruce.
		Michigan	Defoliation occurred on about 145,952 acres
		New Hampshire	About 5,800 acres of defoliation. Mortality from previous defoliation is being salvaged.
		Maine	There were about 4.0 million acres of moderate to heavy defoliation and 2.0 million acres of light defoliation. Over 300,000 acres had more than 50 percent fir mortality. Moderate to heavy defoliation is expected to decrease to 3.0 million acres in 1984. In addition, 35,000 acres of Passamaquoddy and Penobscot Indian lands were defoliated.
		Vermont	More than 178,000 acres were defoliated. Trees on 1,712 acres were protected by aerial application of <u>B.t.</u>
Tuliptree scale <u>Toumeyella liriodendri</u>	Yellow poplar	Indiana	Moderate to heavy damage to ornamentals occurred in southern Indiana.
		West Virginia	Extremely heavy populations presently are statewide. ✓
White pine weevil <u>Pissodes strobi</u>	Jack pine, white pine, spruce, fir, red pine	Michigan	Weevil damage has increase in the past 20 years statewide.
		Rhode Island	Moderate to heavy populations statewide. ✓
		Vermont	
		Maine	

Insect	Host	Location	Remarks
<u>Stem and Branch</u>			
Beech bark disease <u>Cryptococcus</u> <u>fagisuga</u> ; <u>Nectria</u> <u>coccinea</u> var. <u>faginata</u>	American beech	Pennsylvania West Virginia Vermont New York New Hampshire Maine Rhode Island Connecticut Massachusetts	Status in Pennsylvania since 1982 has remained static. Losses are expected to increase. Mortality in West Virginia occurred on 18,000 acres. <u>Nectria galligena</u> is apparently killing beech in addition to <u>N. coccinea</u> var. <u>faginata</u> . Beech scale is present on 125,000 acres. About 90,945 acres with 30-100 percent of American beech dead. ✓
European larch canker <u>Lachnellula willkommii</u>	Eastern larch	Maine	Present in 1 county. The oldest cankers of this disease are 13 years old. A quarantine is expected to be implemented. ✓
Fusarium canker <u>Fusarium</u> spp.	Black walnut	Minnesota	Fifty percent of all stems in three plantations were infected, probably resulting from the fungi invading through pruning and other branch wounds during the growing season. ✓
Hypoxylon canker <u>Hypoxylon mammatum</u>	Aspen	Minnesota Michigan Wisconsin	In Minnesota, 33,100 acres of aspen had <u>H. mammatum</u> or <u>Phellinus tremulae</u> (white trunkrot) infections representing 72 percent of the area surveyed. ✓
Scleroderris canker <u>Gremmeniella abietina</u>	Red pine, jack pine	Wisconsin Michigan Vermont Maine New York	No significant increase in the number of trees infected, except in northern Wisconsin. Approximately 1,800 acres under quarantine. ✓

Disease	Host	Location	Remarks
<u>Vascular Wilt</u>			
Dutch elm disease <u>Ceratocystis</u> <u>ulmi</u>	Elm	Areawide	Fence row, other wild and ornamental trees are still being killed. In Wisconsin 23 percent of the 1968 population was still alive. ✓
Oak wilt <u>Ceratocystis</u> <u>fagacearum</u>	Oak	Indiana Michigan Missouri Minnesota West Virginia Wisconsin Iowa	Scattered, wilted trees in infected counties throughout the reporting States. ✓
<u>Root Disease</u>			
Annosus root rot <u>Heterobasidion</u> <u>annosum</u>	Conifers	Vermont Maine	Disease remained static. Damage increases as plantations reach an age when thinning is needed. ✓
Phytophthora root rot <u>Phytophthora</u> <u>cinnamomi</u>	Douglas-fir, white fir, Fraser fir, rhododendron	West Virginia counties.	Presently known to occur in 7 counties. It is becoming a major concern statewide. ✓
Shoestring root rot <u>Armillariella mellea</u>	Red pine	Ohio Michigan	About 20-30 percent of trees 40-50 years old in plantations in southern and southeastern Ohio were killed. Continued mortality is expected to occur. Plantations are being pre-emptively salvaged and planting and thinning practices are being reviewed. ✓

Disease	Host	Location	Remarks
White pine root decline <u>Verticicladiella</u> <u>procera</u>	White pine	Indiana West Virginia	Widespread throughout reporting States. West Virginia loses 5-7 percent of its annual Christmas tree crop to the disease. ✓
<u>Foliage Disease</u>			
Anthraxnose <u>Gnomonia</u> spp. <u>Gloeosporium</u> spp.	Sycamore, oak, ash, hickory	Pennsylvania Indiana Missouri West Virginia Ohio Iowa Vermont	Very heavy defoliation in all States reporting anthracnose diseases. ✓
<u>Bifusella</u> needlecast <u>Bifusella linearis</u>	White pine	West Virginia	This was the first time this disease was reported in West Virginia. ✓
<u>Diplodia</u> tip blight <u>Diplodia pinea</u>	Austrian pine, Scotch pine, red pine, jack pine	Ohio Indiana Wisconsin Pennsylvania Missouri Minnesota Massachusetts	Scattered, primarily on shade and ornamental trees. ✓
Larch needlecast <u>Mycosphaerella</u> <u>laricina</u>	European larch	Wisconsin	Plantations in 6 counties are infected. ✓

WIDTH = 
 SIZE 380
 H = 75
 W = 75

Disease	Host	Location	Remarks
<u>Decline</u>			
Ash decline	Ash	Pennsylvania Indiana Ohio West Virginia Iowa Vermont New York	In Pennsylvania, 367 acres in Sullivan County had 31-60 percent branch dieback. Damage in Indiana is most severe in the northeastern counties. Symptoms in West Virginia suggest this problem may now be occurring there. <u>Fusicoccum</u> sp. was commonly isolated from affected branches. ✓
Larch decline	Larch	Vermont New York Maine	Decline symptoms appeared on about 3,500 acres. Mortality is associated with Eastern larch beetle (<u>Dendroctonus simplex</u>) and <u>Armillariella mellea</u> . ✓
Maple decline	Maple	Michigan Vermont Maine	Symptoms appear primarily on roadside and ornamental trees statewide. ✓
Red spruce decline	Red spruce	Vermont New York New Hampshire	Decline was more evident at upper elevations than in the past. Decline occurred on 37,320 acres representing 102,540 cords. Approximately 53,775 acres had mortality associated with eastern spruce bark beetle (<u>Dendroctonus obesus</u>). In White mountain region at higher elevation. ✓
<u>Animal Damage</u>			
Pine Vole <u>Microtus pinetorum</u>	Nursery trees	Maryland	Extensive subsoil girdling in some nursery beds. Rodenticides were partly successful in reducing populations. ✓

Disease	Host	Location	Remarks
<u>Abiotic</u>			
Air pollution damage (SO ₂ , O ₃)	White pine	Wisconsin	Damage is prevalent throughout southern and central counties. ✓
Drought	All trees	Many States Areawide	This was one of the worst droughts in 50 years. Some areas experienced up to a 6-inch deficit compared to normal years. Drought probably contributes to many decline symptoms. ✓
White pine needle blight	White pine	Vermont	Browning of needles thought to be weather related. ✓

Pests Which Caused Minor Damage in 1983

Insect	Host	Location
Arborvitae leaf miner <u>Argyresthia thuifella</u>	Northern white cedar	Vermont ✓
Aspen blotch miner <u>Lithocolletis tremuloidiella</u>	Aspen	Michigan ✓
Aspen leafroller complex <u>Choristoneura conflictana</u> <u>Anacampsis</u> sp.	Aspen	Michigan ✓
Balsam fir sawfly <u>Neodiprion abietis</u>	Balsam fir	Michigan ✓
Balsam gall midge <u>Paradiplosis tumifex</u>	Balsam fir	Maine ✓ Vermont ✓
Balsam twig aphid <u>Mindarus abietinus</u>	Balsam fir	Vermont ✓ Maine ✓
Birch leafminer <u>Fenusa pusilla</u>	Paper birch Gray birch	Vermont ✓ Michigan ✓ Rhode Island ✓
Bagworm <u>Thyridopteryx</u> <u>ephemeraeformis</u>	Arborvitae, eastern red cedar, pines and hardwoods	Indiana ✓
Eastern pine shoot borer <u>Eucosma gloriola</u>	Jack pine	Michigan ✓
Bronze birch borer <u>Agrilus anxius</u>	Ornamental birches	Indiana ✓ Michigan ✓
Cone insects <u>Choristoneura fumiferana</u>	White spruce	Minnesota ✓
<u>Dioryctria</u> <u>abietella</u>	White spruce,	Minnesota ✓
Eastern spruce gall adelgid <u>Adelges abietis</u>	Spruce	Vermont ✓

Insect	Host	Location
Elm leaf beetle <u>Pyrrhalta luteola</u>	Elm	Vermont ✓
Green-striped mapleworm <u>Anisota rubicunda</u>	Maple	Maine ✓
Imported willow leaf beetle <u>Plagiodera versicolora</u>	Willow	Michigan ✓
Ips bark beetles <u>Ips</u> spp.	Pines, Norway spruce ✓	Indiana Minnesota Michigan
Larch casebearer <u>Coleophora laricella</u>	Larch ✓	Maine
Larch sawfly <u>Pristiphora erichsonii</u>	European larch ✓	Maine Michigan Rhode Island New York
Locust twig borer <u>Ecdytolopa insiticiana</u>	Black locust ✓	Indiana
Maple leaf cutter <u>Paraclemensia acerifoliella</u>	Maples ✓	Michigan Vermont
Maple petiole borer <u>Caulocampus acericaulis</u>	Maples ✓	Indiana
Maple trumpet skeletonizer <u>Epinotia aceriella</u>	Sugar maple ✓	Michigan Vermont
Maple webworm <u>Tetralopha asperatella</u>	Sugar maple ✓	Vermont
Mountain ash sawfly <u>Pristiphora geniculata</u>	Mountain ash ✓	Vermont
Oak leaftier <u>Croesia semipurpurana</u>	Oak ✓	Vermont Maine
Oblique-banded leaf roller <u>Choristoneura rosaceana</u>	Poplar, birch ✓	Maine

Insect	Host	Location
Orange-striped oakworm <u>Anisota senatoria</u>	Oak ✓	Maryland
Pine bark adelgid <u>Pineus strobi</u>	White pine ✓	Indiana West Virginia
Pine chafer <u>Anomala obliqua</u>	Pines ✓	Michigan
Pine needle sheath miner <u>Zelleria haimbachii</u>	Jack pine ✓	Michigan
Pine root collar weevil <u>Hylobius radialis</u>	Scotch pine ✓	Indiana Michigan
Pine spittlebug <u>Aphrophora parallela</u>	Scotch pine, jack pine, white pine ✓	Michigan Vermont
Red-headed jack pine sawfly <u>Neodiprion virginianus</u>	Jack pine ✓	Michigan
Red pine needle midge <u>Thecodiplosis</u> <u>piniresinosae</u>	Red pine Scotch pine ✓	Michigan
Saddled prominent <u>Heterocampa guttivitta</u>	Beech, birch, maple ✓	Vermont
Satin moth <u>Leucoma salicis</u>	Poplar ✓	Maine
Spruce coneworm <u>Dioryctria reniculelloides</u>	Spruce ✓	Maine
Walnut casebearers <u>Acrobasis juglandis</u> & <u>A. demotella</u>	Black walnut ✓	Indiana
Walnut caterpillar <u>Datana integerrima</u>	Black walnut ✓	Indiana
White grubs <u>Phyllophaga</u> sp.	Red pine ✓	Michigan

Insect	Host		Location
Uglynest caterpillar <u>Archips cerasivoranus</u>	Choke cherry	✓	Vermont
Variable oak leaf caterpillar <u>Heterocampa manteo</u>	Beech, Paper birch	✓	Michigan
Yellowheaded spruce sawfly <u>Pikonema alaskensis</u>	White spruce Blue spruce	✓	Michigan Vermont Maine

Disease	Host	Location
<u>Stem and Branch</u>		
Atropellis canker <u>Atropellis tingens</u>	Scotch pine	West Virginia ✓
Black knot <u>Apiosporina morbosa</u>	Cherry	Vermont ✓
Butternut canker <u>Sirococcus clavignenti</u>	Butternut	Iowa ✓ Wisconsin ✓
Cytospora canker <u>Cytospora kunzei</u>	Norway spruce, Colorado blue spruce	West Virginia ✓ Vermont ✓
Eastern gall rust <u>Endocronartium</u> <u>harknessii</u>	Jack pine, Scotch pine	Michigan ✓ Minnesota ✓ Wisconsin ✓
Hypoxylon canker <u>Hypoxylon mammatum</u>	Aspen	Vermont ✓
Nectria canker <u>Nectria galligena</u>	Birch	Maine ✓
Redbud canker <u>Botryosphaeria</u> <u>dothidea</u>	Redbud	Indiana ✓
Red pine shoot blight <u>Sirococcus strobilinus</u>	Red pine	Wisconsin ✓ Maine ✓
Spruce twig blight <u>Ascochyta piniperda</u>	Norway spruce, white spruce	Rhode Island ✓
White pine blister rust <u>Cronartium ribicola</u>	White pine	Vermont ✓ Maine ✓
<u>Foliage Disease</u>		
Actinopelte leaf spot <u>Actinopelte dryina</u>	Oak	Wisconsin ✓
Ash leaf rust <u>Puccinia</u> <u>sparganioides</u>	Ash	Maine ✓
Bullseye leaf spot <u>Cristulariella</u> <u>pyramidalis</u>	Maple, ash, other hardwoods	West Virginia ✓

Disease	Host	Location
Dothistroma needle blight <u>Dothistroma pini</u>	Austrian pine	Missouri Iowa
Fir-fern rust <u>Uredinopsis mirabilis</u>	Balsam fir	Vermont Maine
Hypoderma needlecast <u>Hypoderma lethale</u>	Pitch pine	West Virginia
Lophodermium needlecast <u>Lophodermium pinastri</u>	Scotch pine	Indiana Wisconsin West Virginia Vermont Maine
Marssonina leaf spot <u>Marssonina</u> spp.	Aspen	Michigan
Naemacyclus needlecast <u>Naemacyclus minor</u>	Scotch pine	West Virginia
Rhizosphaera needlecast <u>Rhizosphaera kalkhoffi</u>	Spruce	West Virginia Michigan Maine
Rhabdocline needlecast <u>Rhabdocline pseudotsugae</u>	Douglas-fir	Maine
Swiss needlecast <u>Phaeocryptopus</u> <u>gaumannae</u>	Douglas-fir	Michigan Iowa Vermont Maine
Tarspot needlecast <u>Davisomycella ampla</u>	Jack pine	Minnesota Michigan
<u>Other</u>		
Cone rust <u>Chrysomyxa pirolata</u>	White spruce	Minnesota
Frost	All trees	Michigan

Disease	Host		Location
Pinewood nematode <u>Bursaphelenchus</u> <u>xylophilus</u>	Conifers	✓	Areawide
Porcupine <u>Erethizon dorsatum</u>	Conifers	✓	Vermont
Verticillium wilt <u>Verticillium</u> <u>albo-atrum</u>	Maple		Michigan Vermont ✓

1983 Gypsy Moth Defoliation by State ^{1/}

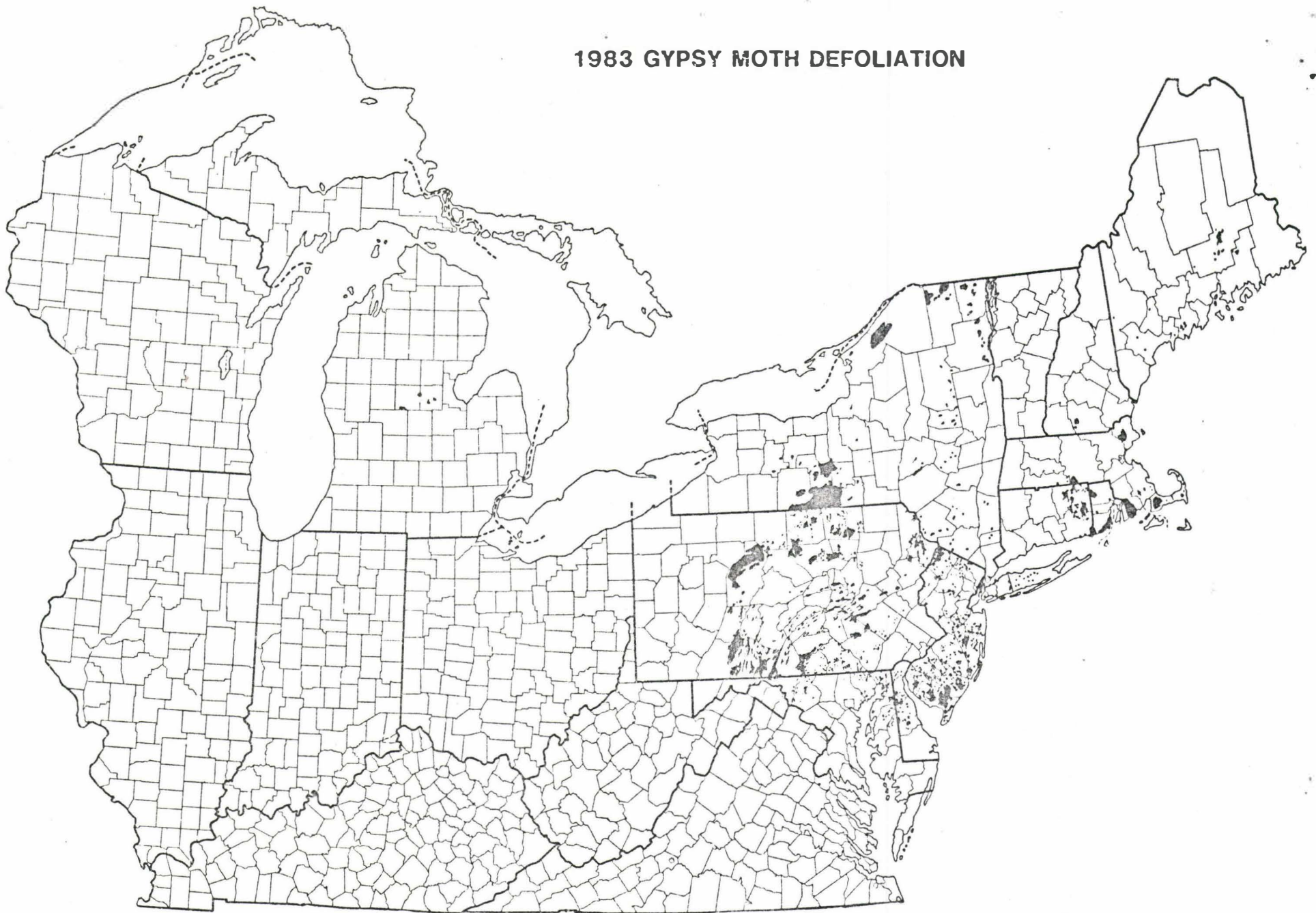
State	Defoliation Intensity ^{2/}		Total Defoliation ^{3/}
	Moderate	Heavy	
Connecticut	100,798	52,441	153,239
Delaware	1,855	1,137	2,992
Maine	4,574	11,711	16,285
Maryland	11,562	4,308	15,870
Massachusetts	84,045	64,088	148,133
Michigan	85	372	457
New Hampshire	560	0	560
New Jersey	156,930	183,355	340,285
New York	183,554	107,289	290,843
Pennsylvania	1,003,770	357,054	1,360,824
Rhode Island	38,590	15,290	53,880
Total	1,586,323	797,045	2,383,368

^{1/} Based upon State-conducted aerial detection surveys.

^{2/} Moderate defoliation = 31-60 percent.
Heavy defoliation = 61-100 percent.

^{3/} USDA Forest Service did not ask States to report light defoliation (<30 percent). Some States, however, report light defoliation for their own purposes.

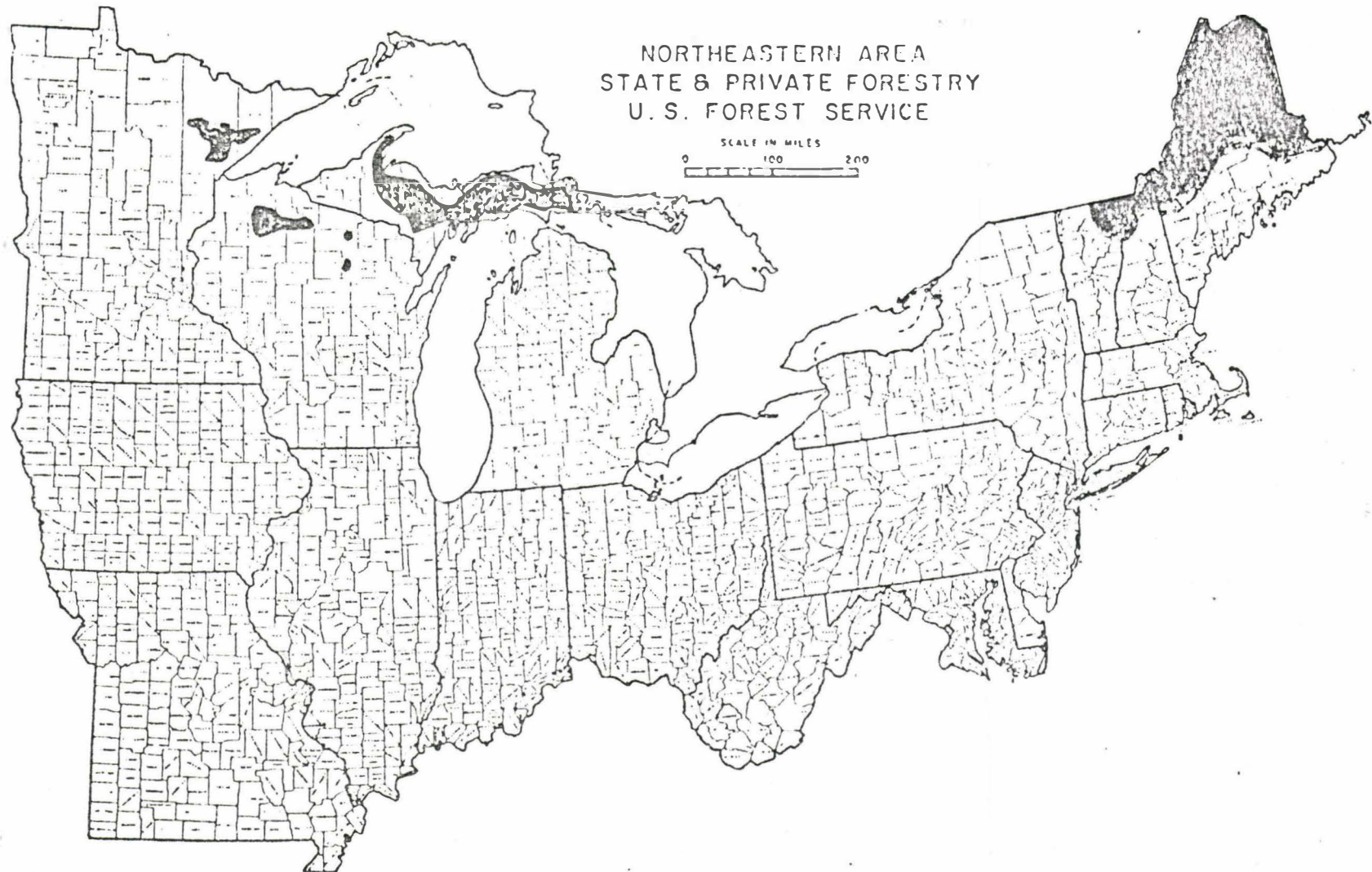
1983 GYPSY MOTH DEFOLIATION

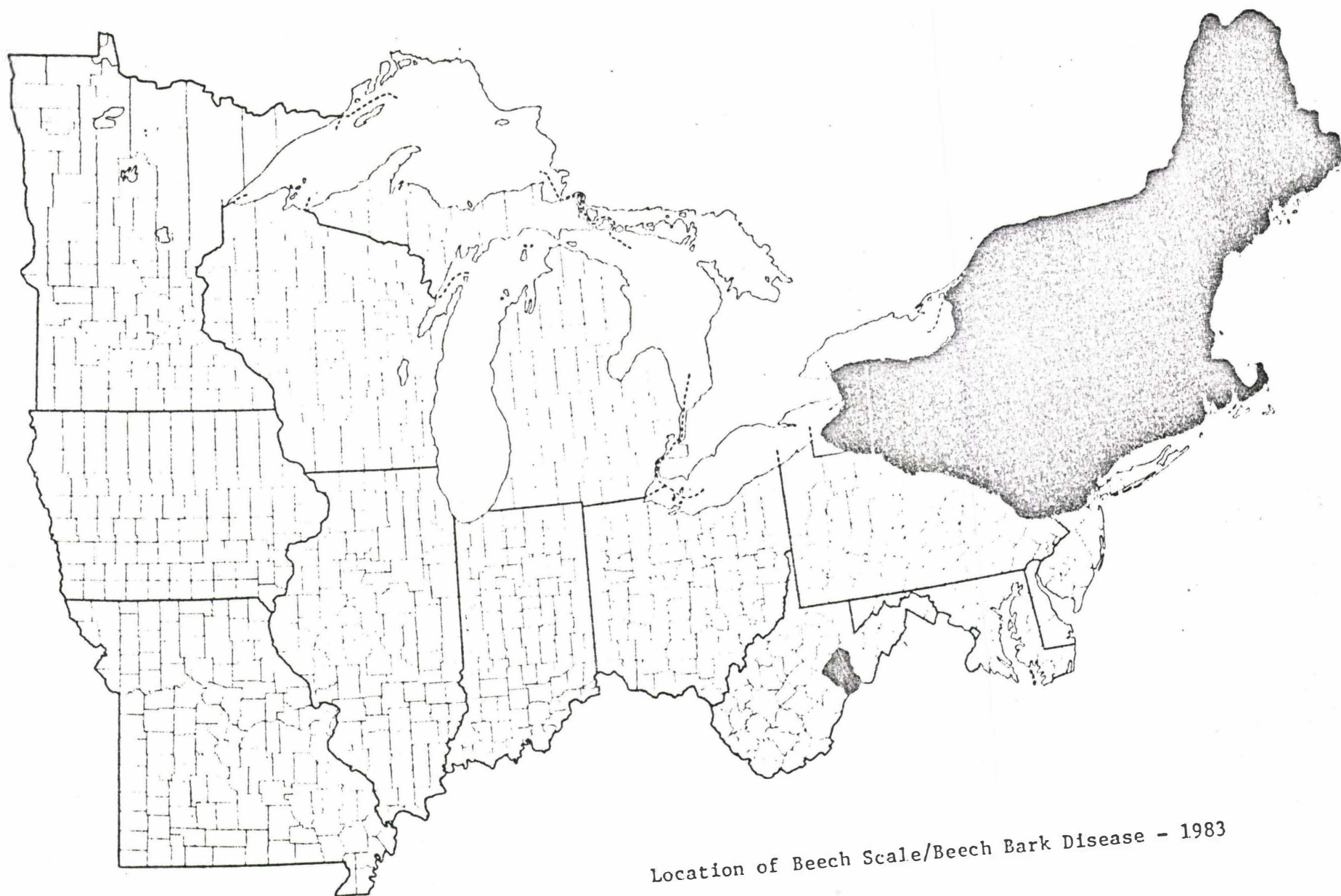


0 100 200 300 400 500 MILES

ALBERS EQUAL AREA PROJECTION
Scale 1:5,000,000

Spruce Budworm Defoliation - Lake States and New England - 1983





Location of Beech Scale/Beech Bark Disease - 1983